

**WARREN COUNTY HEALTH DEPARTMENT  
2009 ENVIRONMENTAL HEALTH ASSESSMENT AND IMPROVEMENT PLAN**

**INTRODUCTION**

The Warren County Health Department (WCHD) has participated in the County Environmental Health Act (CEHA) program since 1985. The Act authorizes county health departments to function as agents of the state in conducting countywide environmental health activities to investigate citizen complaints, provide public education, and enforce environmental statutes and regulations. State grants have been available to support CEHA activities.

The requirement that a CEHA grant application include a countywide environmental health assessment and improvement plan was adopted in July 2000 (N.J.A.C.7:1H2.l(b)). The plan must identify county environmental health issues and propose a set of CEHA activities for the upcoming year.

**DESCRIPTION OF AGENCY**

The Warren County Health Department has provided comprehensive local public health services to the Warren County citizenry since 1970. State-mandated services are provided in the broad categories of Environmental Health, Health Education, Communicable Disease, Adult Health, Maternal and Child Health, and Medicare-certified Home Care. The Department is the authorized local health services agent for all twenty-two County municipalities. It has the strong support of elected county and municipal officials.

The Warren County Health Department has extensive experience in providing environmental health services according to State Environmental Protection and Health Department performance standards. The Environmental Health Division is the County Lead Agency for implementation of the County Environmental Health Act (CEHA), the Right-To-Know Act (RTK), the Local Information Network Communications System (LINCS) and the CDC Emergency Preparedness Grant Project.

The Environmental Health Division has 25 employees, and conducts about 8,000 environmental health activities annually. In 2007, approximately one-third of the Division's \$2.4 million budget was offset by grants and fees. The Department has sufficient staffing, training, equipment and stable funding to conduct a comprehensive countywide environmental health program based on current performance standards. We are committed to maintaining the capacities and partnerships needed to implement a modern public health system envisioned in new State Public Health Practice Standards.

## DESCRIPTION OF COUNTY

Warren County, located in northwestern New Jersey, occupies an area of 365 square miles, is 32 miles long with an average width of 13 miles, and ranks ninth in size among the State's 21 counties. Within the County is some of the most rugged and scenic terrain found in New Jersey. Mountain ranges and ridges that divide the county's fertile river valleys include Kittatinny Mountain, Jenny Jump Mountain, Scott's Mountain and Pohatcong Mountain. These fertile valleys have enabled the county to become an important agricultural district in the Garden State. Streams and rivers include the Musconetcong, Paulinskill and Pequest rivers; Dunnfield, Pohatcong and Lopatcong creeks; and Van Campens Brook. All flow into the Delaware River, a pristine major recreation resource.

The 2000 Census showed the County population to be 102,437. This was an increase of 11.7 percent over 1990. As a comparison, New Jersey's population increased 8.6 percent between 1990 and 2000. The County's Planning Department projects the population to rise to 116,437 in 2010 and 127,792 in 2020.

About a third of the population is clustered in and around the "urban" centers of Phillipsburg, Washington and Hackettstown. While Warren is the 9<sup>th</sup> largest geographically in the state, the county ranks 19<sup>th</sup> of 21 counties in population.

The county operates under the freeholder form of county government. The Board of Chosen Freeholders consists of three Freeholders - Warren is the only remaining county to have a three-member board - each elected at large for staggered terms of three years. Reporting to the Board of Chosen Freeholders is an appointed County Administrator/Clerk of the Board who manages and supervises the day-to-day functions of the various County departments.

Among Warren County's greatest natural assets are clean air, clean water and open spaces for resident families, for visitor recreation, and for business and industry. With only slightly more than 10 percent of its area covered by urban development, Warren County offers a great deal in the way of outdoor recreation. Nearly 40,000 acres are prime forest, and more than 61,000 acres are termed forestland of statewide importance. Parks, forests and conservation lands within the County total nearly 38,000 acres and include Jenny Jump State Forest, Stephens State Park, Allamuchy Mountain State Park, Worthington State Forest, Merrill Creek Environmental Resource Preserve, Pequest Trout Hatchery and Natural Resource Educational Center, and the Delaware Water Gap National Recreation Area. Approximately 35% of Warren's total acreage is devoted to farming, with 46% of the total land being woodlands. Wetlands comprise about 9% of the county area.

The County has a policy of open space and farmland preservation. A public opinion survey by the County Planning Department showed that people in Warren County want controlled growth, land preservation and a clean environment.

## **THE PLAN**

Major County Environmental Health program areas are Air, Water, Solid Waste and Hazmat. There follows a description of the goal, status and set of activities for each of these major programs. Sections are also provided for other program areas, including Noise, Pesticides, Radon, and Open Government.

### **AIR**

**GOAL:** The air in Warren County will be healthful to breathe, and air pollutants will not damage our forests, land and water bodies.

### **STATUS**

Air quality in Warren County has been a contentious public issue for many years. Emissions sources of concern have included the County solid waste incinerator and landfill, nearby power plants in PA, and large industrial facilities such as the Atlantic States Foundry.

A July 2000 Health Resources and Services Administration (HRSA) report states that Warren County air met national standards for CO, NO<sub>x</sub>, SO<sub>2</sub>, ozone, particulates and lead. However, the 2005 NJDEP Air Quality Report notes that The USEPA has designated the entire State of New Jersey as non-attainment for Ozone, and the same report designates a western portion of Warren County as the only SO<sub>2</sub> non-attainment area in New Jersey. The SO<sub>2</sub> non-attainment may be related to emissions from the nearby Martins Creek, PA power and light company plant that burns coal and oil. A proposal in late 2000 to expand the plant without upgrading existing control systems triggered a public outcry, formal protests by County officials and a legal appeal by the NJDEP. In May 2003, an agreement was reached in which NJDEP will withdraw its appeal, and the facility will burn lower sulfur coal, phase out its coal-fired units, and contribute to a Warren County air monitoring project. Also, in 2007, New Jersey filed suit against the federal EPA for allowing pollution from the Portland, PA power plant operated by Reliant Energy. New Jersey contends that emissions from the coal burning plant contribute to sulfur dioxide air quality exceedences in Warren County.

Roche Vitamins (DSM) self reported a large unauthorized solvent vapor release of Chloroform in 2000. The release raised concerns about asthma in the Belvidere area. Environmental Commissions in Belvidere and White conducted surveys and concluded that local asthma rates were elevated. A controlled study was recently completed by UMDNJ in 2004 to determine if changes in respiratory function among asthmatic school children were related to the release of Chloroform in the Belvidere area. Air monitoring stations were located in the area and the results indicated that SO<sub>2</sub> levels well below the federal 24 hour standard may pose a greater health threat, especially to sensitive individuals (asthmatics). The source of SO<sub>2</sub> is fossil fuel burning power plants.

Offensive odors from the County landfill, compost and industrial facilities have been a vexing source of complaints in Warren County for many years. However, operational improvements and the installation of odor control equipment have resulted in a significant decrease in odor complaints in 2008. A project to reduce odors and generate electrical power from otherwise wasted methane and other combustible gases emitted by the landfill were implemented in 2007. A scrubber system was installed to remove odorous hydrogen Sulfide from the landfill gas.

#### 2009 ACTIVITIES - AIR

- Investigate DEP referrals and citizen air pollution complaints of odors, particulates and open burning. Initiate enforcement actions for violations of the State Air Code.
- Conduct State air permit compliance inspections of gas stations, dry cleaners, boilers, paint spray booths, emergency generators, and idling diesel vehicles. Assess and collect penalties from noncompliant facilities.
- Continue to act against any proposals by upwind power plants or other emissions sources that would negatively impact Warren County's air quality.

### **WATER**

GOAL: Warren County streams and lakes will be fishable, swimmable and support healthy ecosystems. Surface and ground water will be clean sources of water. Every person in Warren County will have an adequate quantity of safe drinking water.

## STATUS

### 1. Groundwater Quality

All of Warren County's drinking water comes from wells. The County has 25 large Public Community Water Supply Systems, which are regulated by NJDEP. The WCHD oversees the County's 236 public non community (PNC) water supply systems and approves new private wells. There are approximately 15,000 private wells and septic systems in Warren County. About 40 % of County households use these systems, which can threaten groundwater and public health if improperly designed, constructed and maintained. Therefore, well and septic system management is a top county environmental and public health priority.

Groundwater quality in Warren County is generally good, but sporadic well contamination events do occur. Contaminants of greatest frequency and concern are fecal coliform bacteria, nitrate, and volatile organic compounds (VOC's). The primary sources of these contaminants in Warren County are believed to be farming operations (bacteria and nitrates), septic systems (bacteria), improper historic solvent disposal practices (chlorinated VOC's), and underground fuel tanks (VOC's such as benzene and MTBE).

The Private Well Testing Act (PWTA) implemented in late 2002 is expanding our knowledge of County groundwater quality. The Act requires extensive testing of wells serving properties being resold. Several VOC well contamination clusters have been identified as a result of PWTA testing. The test data for September 2002 - April 2007 indicate that Warren County test failure rates for fecal coliform, nitrate and VOC's are similar to State rates. Also, a surprising number of PWTA well tests failing for lead have been reported. The lead is believed to originate from the plumbing system, because Warren County has no known naturally occurring lead in ground water. A NJDEP study concluded that the high lead levels being found result from inadequate flushing of the plumbing system prior to sampling.

Beginning in 2008, The PWTA requires arsenic testing in Warren County. A cluster of arsenic-contaminated wells was recently identified in Oxford Township. Since arsenic testing began in 2008, several additional arsenic contamination areas have been identified.

Underground fuel storage tanks (UST's) are a significant source of VOC ground water contamination in Warren County. UST contaminants of concern

include benzene and MTBE. The NJDEP “Known Contaminated Sites in New Jersey” list contains many Warren County locations with soil and/or groundwater contamination from leaking UST’s. UST facility inspections and cleanups are administered by NJDEP.

The Pohatcong Valley Groundwater Contamination Superfund Site is the largest contaminated site in Warren County. The site contains multiple areas of contamination by various chlorinated solvents. The USEPA has an ongoing investigation to delineate and remediate the area impacted. The Warren County Health Department is the official repository for information concerning the EPA site.

## 2. Groundwater Quantity

Groundwater availability in Warren County is generally good. The County is not in any of the State’s designated “Water Supply Critical Areas” where excessive water usage threatens the long-term integrity of a water supply aquifer. The only areas of known poor groundwater availability in the County are localized in Mansfield and Hope Townships.

Warren’s aquifers are relatively productive. The New Jersey Geological Survey ranks the County’s aquifers as “C-B” (101–500 gpm) or “D” (25–100 gpm). The rankings are based on median yields of high capacity industrial wells.

Many older wells, especially shallow dug and driven wells, will fail during periods of drought. Over time, most of these marginal wells in Warren County have been replaced with modern drilled wells that meet current high construction standards and produce adequate yields.

## 3. Septic Systems

Many parts of Warren County will not (nor necessarily should) have public sewerage services for the foreseeable future. Therefore, on-site septic systems must be viewed as a long-term solution to sewage disposal in Warren’s rural areas. It should be noted that septic systems provide the benefit of groundwater recharge.

Septic systems that are not properly managed may fail prematurely, resulting in health nuisance conditions, costly repairs and contaminated wells and groundwater. To help maximize septic system performance and longevity, the WCHD plans to establish a tracking system that will identify and address the reasons for septic failures in the County.

#### 4. Surface Water

Surface water quality in Warren County is generally good – obvious signs of stream and lake pollution are uncommon. However, examination of the State Impaired Waterbodies List (the “303 (d) list” AKA “sublist 5”) shows that the County’s streams and lakes are not entirely pristine. The Federal Clean Water Act requires a state to maintain such a list of waterbody stations at which a Water Quality Standard is not attained and designated water use is threatened. The draft 2008 Warren County list of impaired surface water stations numbers 56, of which 18 stations have priority rankings of medium or high. All major County waterways appear on the list. The impairment parameters of highest priority are fecal coliform bacteria (1 site), mercury (2 sites), phosphorus (9 sites), arsenic (4 sites), and dissolved oxygen (2 sites). The impairments are likely related to diffuse sources than to point source discharges. Total Maximum Daily Loads (TMDL’s) of major pollutants must be developed for the affected water bodies. TMDL’s may be controlled by discharge permit limits and/or non-point source best management practices (BMP’s).

#### 2009 ACTIVITIES – WATER

- Investigate complaints concerning surface and groundwater contamination, abandoned wells, and failing septic systems. Take enforcement action where needed.
- Regulate new and altered septic systems: review plans, inspect installations, and issue certifications. Distribute septic care information to property owners.
- Establish a system to track septic system malfunctions and address the causes of system failure.
- Regulate new and altered private and public noncommunity well systems: review plans, conduct inspections, review water test reports and issue certifications. Distribute well protection information to well owners.
- Inspect PNC non-transient systems every two years and transient systems every four years. Review the NJDEP public water database to identify systems that fail to sample as required. Conduct “zero tolerance” enforcement action.

- Investigate private and PNC well contamination complaints. Take follow up action on well test reports of primary drinking water standard exceedances generated by the Private Well Testing Act. Notify property owners near wells found to be contaminated with a hazardous substance.
- Continue to participate in the NJDEP ambient surface water network summer bacterial sampling. Collect 5 samples over a 30-day period at each designated sampling station. Deliver samples to the NJDEP courier for transport to the State lab.

## **SOLID WASTE**

GOAL: Solid Waste in Warren County will be managed in a safe and environmentally sound manner. Recycling will receive high priority.

### STATUS

Warren County's major solid waste issues in 2008 have been recycling and the County landfill's closure date. A recent solid waste plan amendment provides for a vertical expansion that would extend landfill life to 2020.

Recycling in New Jersey and Warren County needs improvement. The State Recycling target for municipal solid waste (MSW) is 50%. The NJ MSW recycling rate peaked in 1995 at 45%. The rate has since been declining, and Warren's 2006 MSW recycling rate remains below par at 25.6%. Also, recently-conducted surveys of schools and businesses confirmed that many facilities need to improve their recycling efforts. These trends and statistics are of concern since recycling has presumed environmental health benefits not being fully realized in the State and County. However, the low Warren County figure may be explained, at least in part, by poor municipal reporting and/or inconsistency among counties in the rate calculation method. A new statewide \$3 per ton tipping fee at solid waste facilities is being administered to increase the funding of municipal and county recycling grants with the expectation of improving recycling rates.

Environmental compliance monitoring of the various facilities that handle Warren County's solid waste is conducted by the NJDEP & WCHD. Warren's two major solid waste facilities, the County landfill and solid waste incinerator, are monitored primarily by NJDEP. Other facility types that receive routine inspections include minor and closed landfills, compost sites, recycling

centers, and leaf mulching sites, DPW sites, wood processing facilities and scrap tire receivers. The compliance status of these facilities is generally good. However, some sites have sporadic odor problems, not all scrap tires sites have come into full compliance, and several closed landfills remain on the NJDEP Known Contaminated Sites List.

#### 2009 ACTIVITIES – SOLID WASTE

- Investigate all complaints from citizens and NJDEP concerning improper operation of solid waste facilities, illegal dumping, unpermitted facilities and sludge mishandling. Take enforcement action where needed.
- Conduct compliance monitoring inspections of the county landfill, resource recovery facility, compost facilities, recycling facilities, scrap tire sites, and leaf mulching sites and to take enforcement action where needed.
- In cooperation with the County Recycling Coordinator, conduct recycling status surveys of schools and businesses. Encourage and assist facilities found to be out of compliance with State Recycling Regulations to improve their performance. Take enforcement action where needed.
- Monitor solid waste haulers for compliance with NJDEP transporter regulations and the Solid Waste Management Plan. Interview transporters seeking A-901 exemption. Inspect vehicle loads for permitted waste type and registration. Inspect solid waste containers for condition and registration.

#### HAZMAT EMERGENCY RESPONSE

GOAL: Warren County will be free from unacceptable human health and ecological risks from exposure to hazardous substances and other harmful agents.

#### STATUS

The Warren County Health Department responds to approximately 50 hazmat incidents annually. Because large incidents have been infrequent, we have historically maintained a relatively basic response capability and referred major incidents to NJDEP. However, the events of September 11, the subsequent anthrax attacks and ongoing Weapons of Mass Destruction (WMD) threats have

placed a new urgency on preparedness for response to a full range of harmful agents. Accordingly, the WCHD has strengthened its emergency response partnership with the County Office of Emergency Management (OEM) in a coordinated effort to improve response effectiveness.

Warren County has a number of locations vulnerable to accidental or intentional hazmat releases. Interstate highways and rail lines that pass through the County and connect to the Metropolitan area are a major potential source of hazmat incidents. Other vulnerable County sites include several large chemical manufacturing plants and two power plants on the western border. Another potential target in Warren County is the Governor's Alternate Emergency Operations Center, which would be activated if the State's primary command center could not function.

A County Hazmat Team was formed in 2004. Membership consists of qualified County employees from the Health, OEM and other Departments. Three dedicated response vehicles and a full compliment of hazmat equipment have been procured with CEHA, Domestic Preparedness and Homeland Security grant funds. Team members are trained, on medical monitoring, outfitted with protective gear, and provided with specialized instruments and communications equipment. Secure facilities are provided to store the Team's large and varied cache of equipment and supplies. The Health Department oversees all Team activities, coordinates with other response agencies, maintains equipment and records, and manages the program budget.

#### 2009 ACTIVITIES - HAZMAT

- Respond to all hazardous materials emergencies referred by NJDEP or reported through 911. Coordinate response action with appropriate federal, state and local agencies.
- Investigate hazmat complaints received from citizens and NJDEP. Refer cases requiring significant remedial action to NJDEP.
- Maintain a fully-trained and equipped County Hazmat Team also capable of response to CBRN incidents. Operate the team and response program in close cooperation with the County OEM.

#### OTHER

Other County environmental health issues that warrant mention are Noise, Pesticides, and Radon.

Noise complaints in Warren County have been sporadic. However, such complaints are among the most challenging to evaluate and difficult to resolve. The WCHD will ensure that the sound level measuring instruments and trained personnel necessary to provide a basic noise investigation capability are available when the need arises.

Pesticides are examples of hazardous substances intentionally and legally released into the environment. When properly used and handled the benefits of pesticides presumably outweigh their risks. The WCHD addresses pesticide control by promoting Integrated Pest Management (IPM) practices that specify minimum use of pesticides. Also, we will continue to conduct inspections for pest control licensure and application practices by landscapers and in other settings where pesticides are applied, namely schools, golf courses, campgrounds, apartments and restaurants.

Radon exposures to naturally occurring radon gas are a significant public health risk in Warren County. The entire County is located in "Tier 1", a designation that carries the highest potential for elevated levels of indoor radon. NJDEP estimates that 50% of the County population is potentially exposed to indoor radon above the 4pCi/L action level, and that the average indoor radon concentration exceeds the action level in all County municipalities. USEPA data show that the risk of getting lung cancer from lifetime radon exposure at the 4pCi/L action level is 2 lung cancers/1000 persons for nonsmokers and 29 lung cancers/1000 persons for smokers. The WCHD will address radon by providing public education on minimizing radon risk.

## **OPEN AND EFFECTIVE GOVERNMENT**

Finally, the WCHD will strive to achieve its goals through the involvement of citizens and stakeholders as critical partners, and through a commitment to continuous improvement of its operations. We will:

- Maintain open, effective communications and strategic partnerships with State officials, County officials, health agencies, nonprofit organizations, the media, the business community and any other party having interest in environmental and public health.
- Respond promptly and efficiently to complaints, health information requests, and records (OPRA) requests from the public.
- Provide leadership to the Mobilizing for Action through Planning and Partnerships (MAPP) Group consisting of key public health stakeholders and

governmental representatives. In 2007, the group developed a Warren County Community Health Improvement Plan (CHIP). Action Plans are being developed to address issues and problems identified in the CHIP.